

Tennessee Pollution Prevention Partnership Success Story



Poplar Grove School
2959 Del Rio Pike
Franklin, TN 37069

<http://www.fssd.org/pgsweb/>



PGS Student Efforts Save Energy

The Member

Poplar Grove School is a community of creative and compassionate learners committed to continuous improvement. Poplar Grove was built on and named for the home site of Abram Maury, one of Franklin's founding fathers. We are a K-8 balanced-calendar school that opened in July 2000. We have over 1,100 students and faculty. Poplar Grove School is committed to caring for the environment. Students are involved in activities that conserve, enhance and protect our school and community.

The Story

Poplar Grove was built with T8 energy-efficient fluorescent lighting, a geothermal HVAC system, and in 2004 an energy management system was added to control thermostats. Still, we know that behavioral changes will contribute to greater energy savings. Through energy education in various classes, students and staff became more conscious of energy use. Mrs. Morgeson's 5th grade and Mr. Gomes' 8th grade math classes graphed PGS electric, water and gas consumption over the past three years. Results showed a fairly consistent pattern of use with gas consumption higher in the winter and electric consumption higher in the summer. Electricity has declined every year since 2004, from 1,946,000 kWh in 2004 to 1,877,000 kWh in 2007. Water use has also declined by an average of 202,500 gallons over the past two years, which may have a positive effect on gas for heating water.

Fifth and sixth graders studied renewable and non-renewable energy sources. Mrs. Cook's 6th grade participated in the Igniting Creative Energy Project. Students submitted inventions demonstrating wise energy choices and environmental stewardship. Mrs. Webb's 7th grade students posted energy conservation research papers on the PGS Green webpage.

To make a real difference in energy use, we established the PGS Energy Patrol, made behavioral changes, and replaced incandescent light bulbs with compact fluorescents.

The Success

In February 2008, Green Team members established the PGS Energy Patrol to monitor energy consumption and waste. Students patrol at least two times a week and leave a door hanger reporting the type of energy waste. Students record problems, such as a broken window or running toilet, that

need to be further addressed by custodians or the maintenance department. Lower elementary classes now use a designated energy monitor to turn off lights when leaving the room. Green Team members inventoried the use of incandescent bulbs at classroom workstations and reading corners. Members replaced 70 incandescents with energy-saving CFL bulbs. Bulbs that were using 40, 60, or 100 watts are now using 11, 13, and 23 watts. Establishing online newsletters and menus and the PGS Green webpage has reduced copier use and paper consumption by 40,000 pages each year. Students and teachers have established a habit of turning lights and computers off when not in use.



PGS 6th grader displays his energy invention – a solar-powered windshield scraper

The Pollution Prevented

The bulb replacement project will save 4320 kilowatt-hours/school year, which prevents burning 4320 lbs of coal at the power plant. Emissions prevented are 5832 lbs of CO₂, 34.56 lbs of SO₂, and 12.96 lbs of NO_x. Changing to compact fluorescent light bulbs provides a cost savings of \$2,300 dollars over the life of the bulbs. Moving newsletters and menus online reduced paper use by 40,000 pages per year and is saving significant amounts of energy from reduced copier use. Behavioral changes with classroom lights and computers are adding to the savings in kilowatt-hours and dollars. PGS' continued energy conservation efforts will be monitored in the years to come and will be reflected in reduced energy bills and smarter energy users leaving our school.

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